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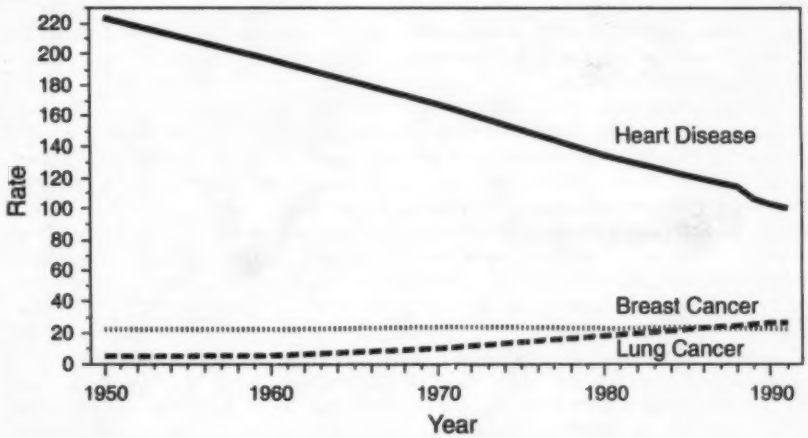
American Heart Month, February 1995

Cardiovascular disease is the most common cause of death in the United States. Although death rates for cardiovascular disease are declining, in 1991 the death rate for this problem among women was approximately five times that for lung or breast cancer (Figure 1). A high proportion of these deaths are preventable by reducing important risk factors for heart disease, including smoking, physical inactivity, and high-fat diet. In conjunction with American Heart Month (February 1995), this issue of *MMWR* includes reports that address two of these modifiable risk factors among U.S. women.

FIGURE 1. Age-adjusted death rate* for women, by selected disease — United States, 1950–1991



*Per 100,000 deaths.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES / Public Health Service

Indicators of Nicotine Addiction Among Women — United States, 1991–1992

An estimated 22 million U.S. women were current smokers in 1993; of these, 73% wanted to quit smoking (*1*). However, attempts to quit smoking and to remain abstinent are hindered by nicotine addiction and by the subsequent effects of nicotine withdrawal (*2*). To assess the prevalence of selected indicators of nicotine addiction among U.S. women, CDC analyzed data from the National Household Survey on Drug Abuse (NHSDA) in 1991 and 1992 (*3*). This report presents the findings of the analysis.

The NHSDA is a household survey of a nationally representative sample of the civilian, noninstitutionalized U.S. population. Combined data from the 1991 and 1992 surveys (n=7137) were used to estimate the prevalences of four indicators of nicotine addiction among women who smoke. Information about these indicators was based on responses to four questions; current smokers* were asked whether, during the 12 months preceding the survey, they 1) "felt [they] needed or were dependent on cigarettes," 2) "needed larger amounts [more cigarettes] to get the same effect," 3) "felt unable to cut down on [their] use even though [they] tried," and 4) "had withdrawal symptoms, that is, felt sick because [they] stopped or cut down on [their] use." The analysis of "unable to cut down" (n=4422) and "felt sick" (n=4646) was restricted to persons who reported trying to reduce their use of cigarettes during the preceding 12 months. In addition, for the indicator "unable to cut down," because of the question design, respondents who reported not trying to reduce any drug use during the preceding 12 months (n=224) also were excluded. Because the likelihood of daily smoking (*4*; CDC, unpublished data, 1991) and the intensity of smoking (i.e., number of cigarettes smoked per day) (*4,5*) varies directly with age, respondents were classified into two age groups—12–24-year-olds and ≥25-year-olds. Data were adjusted for nonresponse and weighted to provide national estimates. Standard errors were calculated by using SUDAAN (*6*).

Among female smokers in both age groups, 75% reported feeling dependent on cigarettes (Table 1). The prevalence of feeling dependent varied directly with intensity of smoking; among those who smoked six to 15 cigarettes per day, 80.6% (95% confidence interval [CI]=77.1%–84.2%) of those aged 12–24 years and 76.1% (95% CI=72.3%–79.9%) of those aged ≥25 years reported feeling dependent on cigarettes. Female smokers aged 12–24 years were more likely to report needing more cigarettes to attain the same effect than were those aged ≥25 years (18.0% [95% CI=15.8%–20.2%] versus 13.2% [95% CI=11.3%–15.0%]). Among those who had tried to reduce smoking during the preceding 12 months, 81.5% (95% CI=78.9%–84.1%) of 12–24-year-olds and 77.8% (95% CI=75.1%– 80.5%) of ≥25-year-olds reported being unable to do so; even among those who smoked six to 15 cigarettes per day, inability to reduce smoking was reported by 82.6% (95% CI=78.7%–86.4%) of 12–24-year-olds and 73.8% (95% CI=68.4%–79.2%) of the ≥25-year-olds. Of all female smokers aged ≥12 years, 35.4% reported withdrawal symptoms (i.e., feeling sick) when they tried to reduce their smoking.

Females in both the younger and older age groups were equally likely to report at least one of the four indicators of nicotine addiction (81.2% [95% CI=78.6%–83.8%] and

*Defined as persons who had ever smoked 100 cigarettes and had smoked during the 30 days preceding the survey.

TABLE 1. Percentage of females who were current cigarette smokers* and who reported experiencing selected indicators of nicotine addiction†, by age and intensity§ of smoking — National Household Survey on Drug Abuse, United States, 1991 and 1992¶

Age group/ Smoking intensity	Felt dependent on cigarettes		Needed more cigarettes for same effect		Unable to cut down**		Felt sick when cut down on smoking**		Any addiction indicator††	
	%	(95% CI§§)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
12–24 yrs		*(n=2138)*		(n=2137)		*(n=1376)*		*(n=1446)*		*(n=2138)*
≤5	52.4	(45.6%–59.3%)	12.8	(9.2%–16.4%)	67.4	(60.7%–74.1%)	21.6	(16.4%–26.9%)	63.1	(56.4%–69.8%)
6–15	80.6	(77.1%–84.2%)	17.5	(14.2%–20.7%)	82.6	(78.7%–86.4%)	33.3	(28.0%–38.5%)	87.0	(83.9%–90.1%)
16–25	86.2	(82.3%–90.0%)	18.8	(14.2%–23.3%)	92.3	(88.8%–95.9%)	48.3	(42.0%–54.6%)	90.4	(87.3%–93.6%)
≥26	88.1	(80.1%–96.1%)	36.4	(26.9%–45.8%)	88.9	(78.7%–99.1%)	45.3	(30.5%–60.0%)	88.2	(80.1%–96.2%)
Total	**74.8**	**(71.8%–77.8%)**	**18.0**	**(15.8%–20.2%)**	**81.5**	**(78.9%–84.1%)**	**35.4**	**(32.5%–38.3%)**	**81.2**	**(78.6%–83.8%)**
≥25 yrs		*(n=4996)*		(n=4997)		*(n=3046)*		*(n=3199)*		(n=4999)
≤5	42.7	(37.1%–48.3%)	6.8	(3.9%– 9.7%)	54.0	(46.3%–61.7%)	22.1	(15.5%–28.7%)	53.0	(46.9%–59.1%)
6–15	76.1	(72.3%–79.9%)	12.9	(9.2%–16.7%)	73.8	(68.4%–79.2%)	33.8	(27.9%–39.6%)	82.1	(78.8%–85.4%)
16–25	81.1	(77.7%–84.5%)	11.6	(9.1%–14.2%)	82.0	(77.4%–86.5%)	34.4	(28.8%–40.0%)	84.0	(81.0%–87.1%)
≥26	85.9	(81.6%–90.1%)	21.1	(15.3%–27.0%)	93.7	(90.5%–97.0%)	48.6	(39.5%–57.7%)	88.7	(85.1%–92.3%)
Total	**74.6**	**(72.4%–76.9%)**	**13.2**	**(11.3%–15.0%)**	**77.8**	**(75.1%–80.5%)**	**34.8**	**(31.4%–38.2%)**	**79.4**	**(77.3%–81.5%)**

*Persons who reported smoking 100 cigarettes during their lifetime and who reported smoking cigarettes during the preceding 30 days.
†The indicators were, during the 12 months preceding the survey, 1) "felt [they] needed or were dependent on cigarettes," 2) "needed larger amounts [more cigarettes] to get the same effect," 3) "felt unable to cut down on [their] use, even though [they] tried," and 4) "had withdrawal symptoms, that is, felt sick because [they] stopped or cut down on cigarette use."
§Number of cigarettes smoked per day.
¶n=7137.
**The analysis of "unable to cut down" (n=4422) and "felt sick" (n=4646) was restricted to persons who reported trying to reduce their use of cigarettes during the preceding 12 months. In addition, for the indicator "unable to cut down," because of the question design, respondents who reported not trying to reduce any drug use during the preceding 12 months (n=224) also were excluded.
††Current smokers who reported at least one of the four indicators of nicotine addiction.
§§Confidence interval.

79.4% [95% CI=77.3%–81.5%], respectively) (Table 1). Even among females who smoked five or fewer cigarettes per day, 63.1% (95% CI=56.4%–69.8%) of those aged 12–24 years and 53.0% (95% CI=46.9%–59.1%) of those aged ≥25 years reported one or more of these indicators.

Reported by: J Gfroerer, Prevalence Br, Office of Applied Studies, Substance Abuse and Mental Health Svcs Administration. Office on Smoking and Health, and Div of Chronic Disease Control and Community Intervention, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: In 1990, an estimated 61,000 U.S. women aged ≥35 years died from cardiovascular diseases attributable to cigarette smoking (*7*). Because the risk for myocardial infarction can be reduced by 50% after 1 year of abstaining from smoking (*8*), interventions to encourage smoking cessation are an important strategy to reduce cardiovascular mortality. Although most women smokers want to quit smoking, only 2.5% of all smokers successfully quit each year (*9*). The finding in this report that approximately 80% of female smokers reported symptoms of nicotine addiction underscores the importance of measures to increase women's access to cessation interventions, including adjunctive nicotine-replacement therapy.

The findings in this report are subject to at least two limitations. First, the NHSDA indicators are not comprehensive measures of nicotine addiction and do not include all symptoms of nicotine withdrawal (e.g., anxiety, irritability, anger, difficulty concentrating, hunger, or cravings for cigarettes) (*2*); as a result, the NHDSA data may underestimate the proportion of smokers who report at least one indicator of nicotine addiction. Second, these findings are based on self-reported data, and perceptions of nicotine addiction were not validated. However, in previous studies, self-reported symptoms of nicotine addiction have been confirmed by observer rating (*2*).

Although manifestations of cardiovascular disease occur primarily during adulthood, related high-risk behaviors, such as tobacco use, often are initiated during adolescence; an estimated 87% of female daily smokers began smoking at ≤18 years of age (CDC, unpublished data, 1991). Young persons often try using tobacco with a belief that they can quit. However, of adolescent smokers who have intended to not be smoking in 5–6 years, 73% still smoked 5 years later (*10*). The 1991 and 1992 NHSDA data suggest that an important reason for young smokers' failure to quit smoking is a prevalence of addiction similar to that among older smokers. Because of the difficulty in achieving abstinence and the strength and early onset of nicotine addiction, interventions to prevent smoking initiation are important.

School-based programs, combined with community interventions, have been effective in preventing smoking initiation (*10*). Other measures that can prevent smoking initiation, onset of nicotine addiction, and subsequent morbidity and mortality associated with cardiovascular diseases include enforcement of laws that prohibit sales to minors, counter-advertising campaigns that "deglamorize" smoking to youth, and increases in the real price of cigarettes.

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Prevalence of Recommended Levels of Physical Activity Among Women — Behavioral Risk Factor Surveillance System, 1992

Regular physical activity provides important health benefits for women, including lower risks for coronary heart disease, some cancers, osteoporosis, and other leading causes of death and disability (*1–3*). Despite such benefits, the proportion of women in the United States reporting regular physical activity has been low (*4*). Because even moderately intense physical activity has substantial health benefits, public health recommendations for physical activity have been expanded to a broader spectrum of activity, including gardening, walking, and housework in addition to more vigorous aerobic exercise (e.g., jogging) (*5,6*). To improve estimates of the prevalence of participation in physical activity at levels associated with health benefits among adult women, data about leisure-time physical activity were analyzed from the 1992 Behavioral Risk Factor Surveillance System (BRFSS). This report summarizes the results of these analyses.

Data were available for 55,506 women aged ≥18 years in 48 states and the District of Columbia who participated in the 1992 BRFSS, a population-based, random-digit–dialed telephone survey. Respondents were asked about the frequency, duration, and intensity of leisure-time physical activities during the preceding month and were categorized as having reported 1) no leisure-time physical activity, 2) irregular activity that did not meet the recommended criteria for either moderate or vigorous physical activity, or 3) regular activity meeting either the previous recommendation for vigorous physical activity (≥20 minutes per day of vigorous physical activity on ≥3 days per week) or the newer moderate activity recommendation (≥30 minutes per day of moderate activity on ≥5 days per week [*6*]). Data were weighted and aggregated, and composite estimates and standard errors for selected groups were calculated using SESUDAAN (*7*). Prevalences and 95% confidence intervals were calculated by age, race/ethnicity, education level, and annual household income of respondents.

Physical Activity — Continued

Overall, 27.1% of adult women reported participation in recommended activity levels, a proportion that was generally consistent across age groups. The prevalence of inactivity increased with age, from 25.6% among women aged 18–34 years to 42.1% among women aged ≥65 years (Table 1). Reported participation in recommended levels of physical activity varied substantially among racial/ethnic groups and by education levels and incomes. White non-Hispanic women were more likely to be more active (28.7%) than Hispanic women (24.7%) and black non-Hispanic women (17.5%).* The prevalence of participation in recommended levels was inversely related to education level and family income: women with less than a high school education were less likely to report regular activity (17.4%) than high school graduates (23.8%) and college graduates (33.5%). Women in the lowest income category (≤$14,999 per year) were least likely to report regular activity (21.4%), and women in the highest income category (≥$50,000 per year) were most likely to report regular activity (34.9%).

Reported by: State Behavioral Risk Factor Surveillance System coordinators. Health Interventions and Translation Br, and Statistics Br, Div of Chronic Disease Control and Community Intervention, National Center for Chronic Disease Prevention and Health Promotion, CDC.

*Numbers for other racial/ethnic groups were too small for meaningful analysis.

TABLE 1. Reported levels of leisure-time physical activity among women, by selected characteristics — Behavioral Risk Factor Surveillance System, 1992

Characteristic	No leisure-time activity (%)	No leisure-time activity (95% CI§)	Irregular activity* (%)	Irregular activity* (95% CI)	Regular activity† (%)	Regular activity† (95% CI)
Age group (yrs)						
18–34	25.6	(24.7–26.6)	47.8	(46.8–48.9)	26.6	(25.6–27.5)
35–49	28.4	(27.4–29.4)	42.7	(41.6–43.8)	28.9	(27.9–29.9)
50–64	32.5	(31.1–33.9)	39.6	(38.2–41.0)	27.9	(26.6–29.2)
≥65	42.1	(40.8–43.4)	33.3	(32.0–34.6)	24.7	(23.5–25.8)
Race/Ethnicity¶						
White, non-Hispanic	27.6	(27.0–28.2)	43.7	(43.0–44.4)	28.7	(28.1–29.3)
Black, non-Hispanic	43.6	(41.7–45.6)	38.9	(37.0–40.8)	17.5	(16.1–18.8)
Hispanic	40.2	(37.3–43.0)	35.1	(32.5–37.8)	24.7	(22.1–27.3)
Education level						
Less than high school	47.4	(45.6–49.2)	35.2	(33.5–37.0)	17.4	(16.0–18.7)
High school/ Technical school	33.4	(32.5–34.4)	42.8	(41.8–43.8)	23.8	(23.0–24.6)
College/Post college	22.3	(21.5–23.1)	44.2	(43.2–45.2)	33.5	(32.6–34.4)
Annual household income						
≤$14,999	40.2	(38.9–41.5)	38.5	(37.2–39.8)	21.4	(20.3–22.5)
$15,000–$24,999	31.3	(30.0–32.7)	44.1	(42.6–45.5)	24.6	(23.4–25.8)
$25,000–$49,999	24.6	(23.5–25.7)	44.1	(42.9–45.3)	31.3	(30.2–32.5)
≥$50,000	21.2	(19.6–22.8)	43.9	(42.0–45.8)	34.9	(33.0–36.7)
Total	**30.2**	**(29.7–30.8)**	**42.7**	**(42.1–43.3)**	**27.1**	**(26.5–27.6)**

*Did not meet the recommended criteria for either moderate or vigorous physical activity.
†Activity meeting either the traditional recommendation for vigorous physical activity (≥20 minutes per day of vigorous physical activity on ≥3 days per week) or the newer moderate activity recommendation (≥30 minutes per day of moderate activity on ≥5 days per week).
§Confidence interval.
¶Numbers for other racial/ethnic groups were too small for meaningful analysis.

Physical Activity — Continued

Editorial Note: CDC and the American College of Sports Medicine recently recommended that adults accumulate ≥30 minutes of moderate physical activity on ≥5 days per week (*6*). Adherence to either this recommendation or the previous recommendation (≥20 minutes of vigorous activity on ≥3 days per week) should provide substantial health benefits (*3,6,8*). The findings in this report indicate that leisure-time physical activity levels among women were strongly associated with demographic characteristics and that two measures of socioeconomic status (i.e., education and income) were particularly strong predictors of participation in health-enhancing levels of physical activity. Because physical inactivity accounts for approximately 25% of all deaths from chronic disease in the United States (*8*), reducing preventable death and disability from disease (e.g., heart disease) attributable to physical inactivity (*8,9*) will require intervention programs that are directed toward and effective among the approximately 70% of women who are sedentary or irregularly active. These BRFSS data also address a priority surveillance need for information about physical activity among racial/ethnic minorities, as specified by the national health objectives for the year 2000 (*5*).

Interpretation of the findings in this report is subject to at least three limitations. First, because the BRFSS estimates for physical activity levels were based on self-reported data, activity levels may be overestimated. Second, the BRFSS did not ascertain nonleisure-time physical activity (i.e., occupational activity or walking or cycling to work); therefore, estimates restricted to leisure-time activity may underestimate the prevalence of physical activity in some groups. Third, because respondents to the BRFSS can report only two leisure-time activities, physical activity levels will be underestimated for those who participate in multiple activities.

Strategies for increasing levels of leisure-time physical activity should include public education about the health benefits of moderate physical activity and education of health-care providers to increase the number of providers who counsel their patients to become more active—levels of physical activity have increased among patients who have been counseled by their physicians to become more active (*10*). Employers can encourage employees to walk on breaks or at other appropriate periods (e.g., lunch) or provide incentives for employees to participate in community-based programs. Community-based programs should offer opportunities for all women to participate in moderate physical activity, particularly women who are older, have low incomes, or have children. Such programs should address barriers to women for increasing activity levels (e.g., safety; child care; time; and the availability and accessibility of walking and cycling trails, sidewalks, and recreational facilities).

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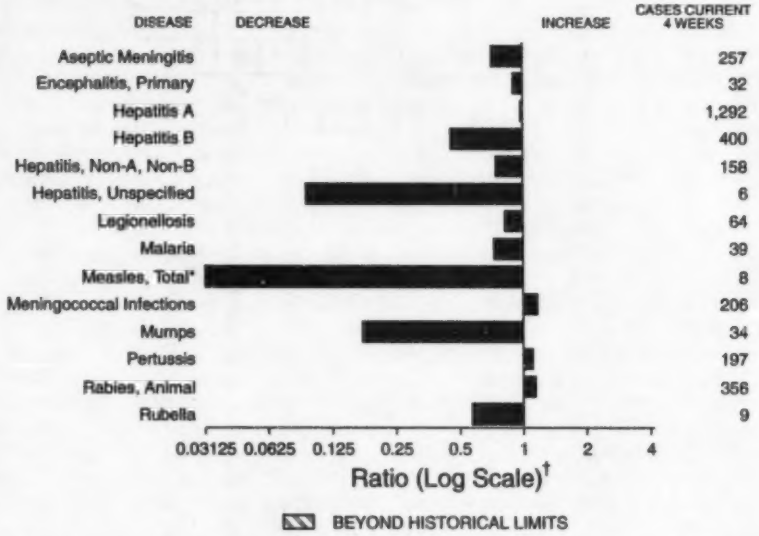
FIGURE I. Notifiable disease reports, comparison of 4-week totals ending February 11, 1995, with historical data — United States



*The large apparent decrease in the number of reported cases of measles (total) reflects dramatic fluctuations in the historical baseline.
†Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending February 11, 1995 (6th Week)

	Cum. 1995		Cum. 1995
Anthrax	-	Plague	-
Aseptic Meningitis	400	Poliomyelitis, Paralytic	-
Brucellosis	8	Psittacosis	3
Cholera	-	Rabies, human	-
Congenital rubella syndrome	1	Rocky Mountain Spotted Fever	12
Diphtheria	-	Syphilis, congenital, age < 1 year†	-
Encephalitis, primary	46	Tetanus	2
Encephalitis, post-infectious	7	Toxic shock syndrome	14
*Haemophilus influenzae**	156	Trichinosis	-
Hansen Disease	9	Tularemia	3
Hepatitis, unspecified	18	Typhoid fever	26
Leptospirosis	7		

*Of 152 cases of known age, 36 (24%) were reported among children less than 5 years of age.
†Updated quarterly from reports to the Division of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Services. First quarter data not yet available.
-: no reported cases

TABLE II. Cases of selected notifiable diseases, United States, weeks ending February 11, 1995, and February 12, 1994 (6th Week)

Reporting Area	AIDS*	Gonorrhea		Hepatitis (Viral), by type						Legionellosis	
				A		B		NA,NB			
	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	5,574	38,879	42,977	2,106	2,067	631	1,220	225	440	101	173
NEW ENGLAND	312	749	961	14	29	12	36	5	14	1	1
Maine	15	5	5	3	1	1	-	-	-	-	-
N.H.	5	18	5	-	2	1	3	-	2	-	-
Vt.	1	2	2	-	-	-	-	-	-	-	-
Mass.	199	401	382	3	15	4	25	5	6	1	-
R.I.	9	52	46	3	6	4	2	-	6	-	1
Conn.	83	273	541	5	3	2	6	-	-	-	-
MID. ATLANTIC	1,729	3,694	4,204	95	132	54	147	32	65	9	17
Upstate N.Y.	186	489	805	12	20	20	30	16	18	2	2
N.Y. City	934	680	1,980	51	58	8	29	1	1	-	-
N.J.	379	380	45	19	29	18	43	10	37	4	3
Pa.	230	2,145	1,374	13	25	8	45	5	9	3	12
E.N. CENTRAL	484	8,960	6,307	315	251	77	184	25	48	32	68
Ohio	32	3,143	3,146	242	65	10	21	1	1	21	25
Ind.	38	721	962	18	43	20	32	1	2	6	21
Ill.	243	2,304	1,355	8	86	3	45	2	8	1	6
Mich.	140	2,544	2,052	45	33	44	52	21	37	4	13
Wis.	31	248	792	2	24	-	34	-	-	-	3
W.N. CENTRAL	102	2,292	2,273	63	108	24	58	8	3	8	12
Minn.	25	398	466	4	7	-	3	-	1	-	-
Iowa	4	184	146	8	4	5	2	2	-	2	9
Mo.	51	1,299	1,071	46	69	19	47	4	1	6	1
N. Dak.	-	-	2	-	1	-	-	-	-	-	-
S. Dak.	-	13	17	-	-	-	-	1	-	-	-
Nebr.	12	-	230	-	21	-	2	-	-	-	1
Kans.	10	398	341	5	4	-	4	1	1	-	1
S. ATLANTIC	1,347	12,982	11,802	96	107	103	286	25	78	23	30
Del.	29	260	189	2	1	1	3	-	-	-	-
Md.	184	1,778	2,125	25	23	21	34	4	10	7	7
D.C.	77	670	614	1	4	7	8	-	-	-	-
Va.	136	1,396	1,760	21	8	9	9	-	2	-	2
W. Va.	4	81	69	4	1	7	3	6	1	2	1
N.C.	82	3,046	3,110	10	10	39	50	7	10	7	2
S.C.	77	1,538	1,440	-	6	2	3	-	-	2	1
Ga.	235	1,803	-	-	8	-	144	-	49	2	10
Fla.	523	2,410	2,495	33	46	17	32	8	6	3	7
E.S. CENTRAL	139	4,272	4,651	46	140	61	152	34	103	2	27
Ky.	7	502	514	8	40	5	19	1	3	-	2
Tenn.	76	83	1,229	21	11	43	121	32	100	-	6
Ala.	35	2,622	1,733	16	8	13	12	1	-	1	2
Miss.	21	1,065	1,175	1	81	-	-	-	-	1	17
W.S. CENTRAL	379	3,190	5,165	157	148	58	78	21	29	1	1
Ark.	20	-	835	3	6	-	2	-	-	-	-
La.	90	1,472	1,841	3	8	5	9	-	3	-	-
Okla.	35	14	409	65	30	30	35	19	25	1	1
Tex.	234	1,704	2,080	86	104	23	32	2	1	-	-
MOUNTAIN	171	834	1,072	535	421	60	59	33	51	13	10
Mont.	7	15	20	8	-	4	1	2	-	1	1
Idaho	5	14	8	50	35	10	5	4	15	2	-
Wyo.	1	5	12	20	2	-	3	16	6	-	-
Colo.	76	311	418	84	40	13	11	6	14	1	2
N. Mex.	7	127	127	111	111	19	21	-	4	-	1
Ariz.	37	275	234	106	194	8	10	3	4	5	1
Utah	5	1	37	137	21	2	3	2	3	2	-
Nev.	33	86	216	19	18	4	5	-	3	2	5
PACIFIC	911	1,906	4,542	785	733	182	220	42	49	12	7
Wash.	91	267	385	20	55	6	11	3	10	-	2
Oreg.	58	-	169	171	40	13	8	3	1	-	-
Calif.	704	1,443	3,843	581	607	159	192	29	36	10	5
Alaska	18	117	62	9	25	1	1	-	-	-	-
Hawaii	40	59	83	4	6	3	8	7	2	2	-
Guam	-	-	19	-	-	-	-	-	-	-	-
P.R.	65	52	57	9	1	51	14	81	1	-	-
V.I.	-	-	3	-	-	-	1	-	-	-	-
Amer. Samoa	-	3	4	1	2	-	-	-	-	-	-
C.N.M.I.	-	-	9	-	-	-	-	-	-	-	-

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS, National Center for Infectious Diseases; last update January 26, 1995.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 11, 1995, and February 12, 1994 (6th Week)

Reporting Area	Lyme Disease		Malaria		Measles (Rubeola)						Meningococcal Infections		Mumps	
					Indigenous		Imported*		Total					
	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	1995	Cum. 1995	1995	Cum. 1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	225	285	71	100	2	12	-	-	12	19	319	420	72	143
NEW ENGLAND	9	22	4	6	-	2	-	-	2	1	28	19	-	5
Maine	-	-	-	1	U	-	U	-	-	-	2	3	-	3
N.H.	-	2	-	1	-	-	-	-	-	-	3	1	-	2
Vt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mass.	9	-	1	1	-	-	-	-	-	1	12	7	-	-
R.I.	-	5	2	3	-	2	-	-	2	-	-	-	-	-
Conn.	-	15	1	-	-	-	-	-	-	-	11	8	-	-
MID. ATLANTIC	158	202	11	22	-	-	-	-	-	5	24	26	9	13
Upstate N.Y.	18	141	-	9	-	-	-	-	-	-	11	7	2	2
N.Y. City	-	9	3	4	-	-	-	-	-	1	-	-	-	-
N.J.	24	38	6	6	-	-	-	-	-	3	11	9	-	2
Pa.	116	14	2	3	-	-	-	-	-	1	2	10	7	9
E.N. CENTRAL	6	4	7	13	-	-	-	-	-	7	59	71	14	35
Ohio	6	4	-	1	-	-	-	-	-	6	17	16	7	7
Ind.	-	-	-	2	-	-	-	-	-	-	17	13	-	2
Ill.	-	-	6	7	-	-	-	-	-	-	20	21	-	17
Mich.	-	-	1	3	-	-	-	-	-	-	5	9	7	8
Wis.	-	-	-	-	-	-	-	-	-	1	-	12	-	1
W.N. CENTRAL	3	5	2	3	-	-	-	-	-	-	10	28	4	5
Minn.	-	1	2	-	-	-	-	-	-	-	-	1	-	-
Iowa	-	1	-	1	-	-	-	-	-	-	5	1	1	1
Mo.	-	2	-	2	-	-	-	-	-	-	3	18	3	4
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Nebr.	-	-	-	-	U	-	U	-	-	-	-	1	-	-
Kans.	3	1	-	-	-	-	-	-	-	-	2	6	-	-
S. ATLANTIC	40	34	18	24	-	-	-	-	-	3	56	67	10	31
Del.	1	4	-	-	-	-	-	-	-	-	1	-	-	-
Md.	30	5	2	3	-	-	-	-	-	-	2	5	-	6
D.C.	-	-	2	4	-	-	-	-	-	-	1	1	-	-
Va.	1	6	2	5	-	-	-	-	-	-	4	9	3	3
W. Va.	4	1	-	-	-	-	-	-	-	-	-	5	-	2
N.C.	3	10	3	1	-	-	-	-	-	-	7	8	3	15
S.C.	1	-	-	1	-	-	-	-	-	-	3	2	1	3
Ga.	-	8	2	4	-	-	-	-	-	-	19	11	-	1
Fla.	-	-	7	6	-	-	-	-	-	3	19	26	3	1
E.S. CENTRAL	-	6	1	2	-	-	-	-	-	-	16	70	3	10
Ky.	-	5	-	-	-	-	-	-	-	-	5	10	-	-
Tenn.	-	-	-	1	-	-	-	-	-	-	2	7	-	-
Ala.	-	1	1	-	-	-	-	-	-	-	7	16	2	-
Miss.	-	-	-	1	-	-	-	-	-	-	2	37	1	10
W.S. CENTRAL	-	-	-	-	-	1	-	-	1	1	20	37	3	20
Ark.	-	-	-	-	-	-	-	-	-	-	2	1	-	-
La.	-	-	-	-	-	-	-	-	-	-	4	2	-	1
Okla.	-	-	-	-	-	-	-	-	-	-	5	6	-	5
Tex.	-	-	-	-	-	1	-	-	1	1	9	28	3	14
MOUNTAIN	2	4	7	2	2	9	-	-	9	-	30	26	3	2
Mont.	-	-	1	-	-	-	-	-	-	-	-	1	-	-
Idaho	-	1	-	-	-	-	-	-	-	-	1	2	-	1
Wyo.	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Colo.	1	-	4	-	-	-	-	-	-	-	9	3	-	-
N. Mex.	-	3	2	1	1	4	-	-	4	-	5	3	N	N
Ariz.	-	-	-	-	1	5	-	-	5	-	12	12	1	-
Utah	-	-	-	1	-	-	-	-	-	-	1	3	1	-
Nev.	1	-	-	-	-	-	-	-	-	-	1	2	1	1
PACIFIC	7	8	21	28	-	-	-	-	-	2	76	78	26	22
Wash.	-	-	2	1	-	-	-	-	-	-	5	5	1	1
Oreg.	-	-	2	1	-	-	-	-	-	-	17	14	N	N
Calif.	7	8	15	22	-	-	-	-	-	2	53	55	22	19
Alaska	-	-	1	-	-	-	-	-	-	-	-	-	2	2
Hawaii	-	-	1	4	-	-	-	-	-	-	1	2	1	-
Guam	-	-	-	-	U	-	U	-	-	1	-	-	-	-
P.R.	-	-	-	-	-	-	-	-	-	-	3	1	-	-
V.I.	-	-	-	-	U	-	U	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	U	-	U	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	1	U	-	U	-	-	19	-	-	-	-

*For imported measles, cases include only those resulting from importation from other countries.
N: Not notifiable U: Unavailable -: no reported cases

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 11, 1995, and February 12, 1994 (6th Week)

Reporting Area	Pertussis			Rubella			Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal	
	1995	Cum. 1995	Cum. 1994	1995	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994	Cum. 1995	Cum. 1994
UNITED STATES	48	287	443	1	14	19	1,578	2,321	1,213	1,734	534	512
NEW ENGLAND	4	17	35	1	1	11	23	23	21	25	163	143
Maine	U	5	2	U	-	-	-	-	-	-	-	-
N.H.	1	1	5	-	-	-	1	-	-	-	22	15
Vt.	-	2	7	-	-	-	-	-	-	-	20	10
Mass.	2	7	17	1	1	11	8	5	7	7	83	62
R.I.	-	-	2	-	-	-	-	3	6	2	-	2
Conn.	1	2	2	-	-	-	14	15	8	16	38	54
MID. ATLANTIC	2	18	79	-	-	1	121	169	115	165	133	125
Upstate N.Y.	2	6	17	-	-	1	7	16	7	29	85	77
N.Y. City	-	-	2	-	-	-	86	122	29	89	-	-
N.J.	-	-	6	-	-	-	15	4	30	27	28	28
Pa.	-	12	54	-	-	-	13	27	49	20	20	20
E.N. CENTRAL	25	47	103	-	-	2	280	246	172	147	1	3
Ohio	3	19	33	-	-	-	101	95	33	32	1	-
Ind.	-	-	5	-	-	-	18	28	4	10	-	-
Ill.	-	-	29	-	-	2	107	55	92	82	-	-
Mich.	22	28	7	-	-	-	38	29	40	19	-	1
Wis.	-	-	29	-	-	-	16	39	3	4	-	2
W.N. CENTRAL	1	9	10	-	-	-	84	149	35	34	29	14
Minn.	-	-	-	-	-	-	3	7	6	5	-	-
Iowa	-	1	-	-	-	-	8	9	10	3	10	8
Mo.	-	1	5	-	-	-	73	133	11	18	4	1
N. Dak.	-	1	-	-	-	-	-	-	-	1	3	-
S. Dak.	1	1	-	-	-	-	-	-	-	4	7	1
Nebr.	U	-	-	U	-	-	-	-	-	-	-	-
Kans.	-	5	5	-	-	-	-	-	8	3	5	4
S. ATLANTIC	1	35	71	-	-	1	394	658	196	232	160	155
Del.	-	1	-	-	-	-	3	1	-	1	7	2
Md.	-	-	22	-	-	-	22	24	54	30	43	53
D.C.	-	1	-	-	-	-	20	21	14	16	1	1
Va.	-	-	8	-	-	-	61	72	10	-	29	38
W. Va.	-	-	1	-	-	-	-	1	12	5	6	5
N.C.	-	30	26	-	-	-	118	224	11	-	36	13
S.C.	-	1	5	-	-	-	67	92	26	47	10	13
Ga.	-	1	5	-	-	-	49	104	30	65	19	30
Fla.	1	1	4	-	-	1	54	119	39	68	9	-
E.S. CENTRAL	6	10	25	-	-	-	482	438	73	349	23	20
Ky.	-	-	3	-	-	-	33	29	13	15	3	-
Tenn.	-	-	13	-	-	-	-	99	-	23	11	9
Ala.	6	10	2	-	-	-	88	77	46	44	9	11
Miss.	-	-	7	-	-	-	361	233	14	267	-	-
W.S. CENTRAL	2	3	16	-	6	-	176	484	36	5	9	7
Ark.	-	-	-	-	-	-	-	54	10	-	-	2
La.	-	-	1	-	-	-	112	267	-	-	7	-
Okla.	-	-	12	-	-	-	17	17	1	5	2	5
Tex.	2	3	3	-	6	-	47	146	25	-	-	-
MOUNTAIN	4	118	13	-	-	-	17	28	38	58	6	9
Mont.	-	2	-	-	-	-	-	-	-	-	3	-
Idaho	1	30	2	-	-	-	-	-	2	2	-	-
Wyo.	-	-	-	-	-	-	2	-	-	-	-	2
Colo.	-	-	5	-	-	-	11	16	-	-	-	-
N. Mex.	-	3	2	-	-	-	1	-	-	9	-	-
Ariz.	3	83	4	-	-	-	3	6	13	33	3	7
Utah	-	-	-	-	-	-	-	3	3	-	-	-
Nev.	-	-	-	-	-	-	-	3	20	14	-	-
PACIFIC	3	30	91	-	7	4	1	126	527	719	10	36
Wash.	1	1	8	-	-	-	1	1	29	21	-	-
Oreg.	-	-	6	-	-	-	-	-	2	8	-	-
Calif.	2	28	74	-	7	4	-	125	476	680	10	26
Alaska	-	-	-	-	-	-	-	-	3	10	-	10
Hawaii	-	3	3	-	-	-	-	-	17	20	-	-
Guam	U	-	-	U	-	-	-	-	-	7	-	-
P.R.	1	1	-	-	-	-	23	46	-	-	7	6
V.I.	U	-	-	U	-	-	-	1	-	-	-	-
Amer. Samoa	U	-	-	U	-	-	-	-	1	-	-	-
C.N.M.I.	U	-	-	U	-	-	-	-	-	11	-	-

U: Unavailable -: no reported cases

TABLE III. Deaths in 121 U.S. cities,* week ending February 11, 1995 (6th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	711	506	116	53	24	12	73
Boston, Mass.	188	107	32	26	18	5	17
Bridgeport, Conn.	44	35	5	2	2	-	3
Cambridge, Mass.	22	19	2	1	-	-	3
Fall River, Mass.	39	28	9	2	-	-	-
Hartford, Conn.	64	40	14	4	2	4	1
Lowell, Mass.	21	18	2	-	1	-	3
Lynn, Mass.	18	14	-	4	-	-	1
New Bedford, Mass.	33	27	5	1	-	-	1
New Haven, Conn.	32	22	8	1	1	-	3
Providence, R.I.	82	63	14	5	-	-	14
Somerville, Mass.	9	7	2	-	-	-	-
Springfield, Mass.	48	38	5	3	-	2	8
Waterbury, Conn.	48	38	7	3	-	-	8
Worcester, Mass.	63	50	11	1	-	1	11
MID. ATLANTIC	2,807	1,901	508	295	44	59	142
Albany, N.Y.	49	33	7	6	1	2	7
Allentown, Pa.	28	26	1	-	1	-	1
Buffalo, N.Y.	111	93	15	2	-	1	5
Camden, N.J.	39	23	10	6	-	-	1
Elizabeth, N.J.	14	7	5	1	1	-	-
Erie, Pa.§	45	37	5	3	-	-	4
Jersey City, N.J.	48	28	11	8	-	1	-
New York City, N.Y.	1,489	967	262	176	29	35	62
Newark, N.J.	78	34	24	16	-	4	7
Paterson, N.J.	27	18	2	6	-	1	-
Philadelphia, Pa.	397	272	72	37	8	8	20
Pittsburgh, Pa.§	95	64	24	4	1	2	7
Reading, Pa.	U	U	U	U	U	U	U
Rochester, N.Y.	135	109	18	7	1	2	14
Schenectady, N.Y.	33	31	2	-	-	-	2
Scranton, Pa.§	38	28	1	11	-	-	1
Syracuse, N.Y.	96	63	19	9	2	3	6
Trenton, N.J.	29	24	4	1	-	-	1
Utica, N.Y.	23	21	2	-	-	-	1
Yonkers, N.Y.	33	25	6	2	-	-	3
E.N. CENTRAL	2,213	1,397	437	203	120	56	139
Akron, Ohio	74	59	11	3	-	1	-
Canton, Ohio	53	44	6	2	-	1	4
Chicago, Ill.	525	202	106	100	86	31	21
Cincinnati, Ohio	56	35	11	6	3	1	4
Cleveland, Ohio	153	103	35	12	2	1	4
Columbus, Ohio	191	134	34	12	4	7	14
Dayton, Ohio	110	83	17	8	1	1	8
Detroit, Mich.	254	148	74	22	6	4	17
Evansville, Ind.	45	34	7	3	-	1	4
Fort Wayne, Ind.	60	39	15	4	2	-	7
Gary, Ind.	21	9	8	1	2	1	1
Grand Rapids, Mich.	59	43	8	3	3	2	4
Indianapolis, Ind.	148	108	31	6	3	-	13
Madison, Wis.	39	26	10	1	2	-	3
Milwaukee, Wis.	134	96	27	7	1	3	11
Peoria, Ill.	22	20	-	1	1	-	2
Rockford, Ill.	51	43	6	1	1	-	6
South Bend, Ind.	50	42	2	5	-	1	5
Toledo, Ohio	99	75	15	2	3	-	9
Youngstown, Ohio	69	54	10	4	-	1	2
W.N. CENTRAL	805	571	134	47	20	18	48
Des Moines, Iowa	84	61	12	5	4	2	6
Duluth, Minn.	50	42	7	-	1	-	6
Kansas City, Kans.	21	15	3	3	-	-	1
Kansas City, Mo.	116	75	17	6	4	-	3
Lincoln, Nebr.	30	23	3	2	1	1	2
Minneapolis, Minn.	197	141	37	6	6	7	10
Omaha, Nebr.	77	52	14	7	-	4	3
St. Louis, Mo.	105	74	19	10	1	1	9
St. Paul, Minn.	74	49	17	4	1	3	4
Wichita, Kans.	51	39	5	4	2	-	2
S. ATLANTIC	1,743	1,119	337	192	52	42	131
Atlanta, Ga.	137	80	22	28	3	4	5
Baltimore, Md.	416	252	78	62	13	11	49
Charlotte, N.C.	73	53	13	5	1	1	5
Jacksonville, Fla.	126	101	20	2	1	2	11
Miami, Fla.	127	77	29	13	6	2	-
Norfolk, Va.	51	33	14	2	1	1	4
Richmond, Va.	102	69	18	12	1	2	3
Savannah, Ga.	67	51	14	2	-	-	7
St. Petersburg, Fla.	81	58	7	8	6	2	8
Tampa, Fla.	196	138	43	11	3	1	25
Washington, D.C.	363	205	79	46	17	16	14
Wilmington, Del.	4	2	-	1	-	-	-
E.S. CENTRAL	670	433	138	57	24	18	52
Birmingham, Ala.	125	73	23	16	9	4	5
Chattanooga, Tenn.	67	48	11	5	2	1	6
Knoxville, Tenn.	87	58	22	3	3	1	7
Lexington, Ky.	42	27	10	2	1	2	4
Memphis, Tenn.	149	101	30	11	6	1	9
Mobile, Ala.	U	U	U	U	U	U	U
Montgomery, Ala.	48	29	12	4	2	1	7
Nashville, Tenn.	152	97	30	16	1	8	14
W.S. CENTRAL	1,634	1,054	326	155	54	42	110
Austin, Tex.	76	48	15	10	1	1	6
Baton Rouge, La.	58	43	10	2	3	-	3
Corpus Christi, Tex.	71	48	13	7	2	1	2
Dallas, Tex.	215	120	49	25	11	10	5
El Paso, Tex.	88	67	16	3	1	1	7
Ft. Worth, Tex.	117	85	19	6	2	5	12
Houston, Tex.	391	229	90	44	13	13	41
Little Rock, Ark.	76	44	15	11	3	3	7
New Orleans, La.	124	77	21	16	6	4	-
San Antonio, Tex.	216	150	38	16	8	4	19
Shreveport, La.	64	49	10	4	1	-	3
Tulsa, Okla.	138	94	30	11	3	-	5
MOUNTAIN	890	609	155	83	23	20	72
Albuquerque, N.M.	121	75	19	19	5	3	5
Colo. Springs, Colo.	56	37	11	6	1	1	7
Denver, Colo.	106	70	19	10	3	4	7
Las Vegas, Nev.	189	120	42	18	7	2	11
Ogden, Utah	25	17	5	1	1	1	2
Phoenix, Ariz.	109	69	21	9	4	6	13
Pueblo, Colo.	36	29	5	1	1	-	4
Salt Lake City, Utah	102	79	14	8	-	1	11
Tucson, Ariz.	146	113	19	11	1	2	12
PACIFIC	1,813	1,182	330	193	56	31	159
Berkeley, Calif.	17	11	3	3	-	-	1
Fresno, Calif.	98	59	19	11	3	6	8
Glendale, Calif.	29	23	4	1	-	1	2
Honolulu, Hawaii	66	49	11	5	-	1	6
Long Beach, Calif.	83	53	14	7	7	2	15
Los Angeles, Calif.	505	320	91	60	21	5	21
Pasadena, Calif.	20	15	2	2	1	-	2
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	159	110	29	17	2	1	20
San Diego, Calif.	138	74	24	23	12	5	15
San Francisco, Calif.	168	95	32	25	2	1	23
San Jose, Calif.	204	145	40	12	4	3	23
Santa Cruz, Calif.	29	22	5	2	-	-	3
Seattle, Wash.	145	98	26	17	2	2	9
Spokane, Wash.	55	44	9	-	1	1	6
Tacoma, Wash.	97	64	21	8	1	3	3
TOTAL	13,286¶	8,772	2,481	1,278	417	298	924

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

U: Unavailable -: no reported cases

Physical Activity — Continued

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Smokeless Tobacco Use Among American Indian Women — Southeastern North Carolina, 1991

Rates of smokeless tobacco use among U.S. adults are highest for young males, American Indians/Alaskan Natives, persons residing in the South or rural areas of the country, and those of low socioeconomic status (*1*). In addition, the prevalence of smokeless tobacco use has been reported to be high in tobacco-producing regions, including rural North Carolina and Kentucky (*2,3*). In southeastern North Carolina, reports from physicians and dentists suggested a high prevalence of smokeless tobacco use in the local American Indian population, the Lumbee—particularly among women and children. In response to these reports, the Department of Family and Community Medicine at the Bowman Gray School of Medicine of Wake Forest University analyzed data from a National Cancer Institute-sponsored cervical cancer prevention program to estimate the prevalence of smokeless tobacco use during 1991 among Lumbee women aged ≥18 years residing in Robeson County, North Carolina (1990 population: 105,179).

This analysis was based on responses to a survey conducted as part of the cancer-prevention program; these data are the most complete on tobacco use for this population. The survey included questions about cervical cancer knowledge, attitudes, and practices; demographic characteristics; social support; and health behavior, including use of tobacco and alcohol. A random sample of 479 women was selected from the official Lumbee tribal enrollment database using a computer-generated list of phone numbers; the database lists approximately 43,000 persons (86% of the estimated 1990 population of the Lumbee tribe). A telephone number was listed for 99% of the Lumbee tribal members in the database. The survey was conducted in respondents' homes during August–October 1991 by nine Lumbee women who had been trained as research assistants.

Smokeless tobacco use was classified as ever or never use based on the question, "Have you ever used chewing tobacco or snuff?" Ever use was further subdivided into current use (those who reported using smokeless tobacco at the time of the survey) and former use (those who reported not using smokeless tobacco at the time of the survey). Early initiation (defined as beginning use at age <6 years) was based on the question, "How old were you when you began using chewing tobacco or snuff regularly?" The survey also assessed smoking status (never, former [smoked at least

Smokeless Tobacco Use — Continued

100 cigarettes during their lifetime but did not smoke at the time of the survey], and current [smoked at least 100 cigarettes during their lifetime and smoked at the time of the survey]), self-reported health status (excellent, good, fair, or poor), social or church group participation, number of close friends, and reported use of medical services. Chi-square analysis was used to assess differences in smokeless tobacco use by demographic, social support, and health behavior categories and to assess the frequency of early initiation of smokeless tobacco use in relation to age group.

Of the 479 women surveyed, 307 (64%) reported never using smokeless tobacco, 64 (13%) reported former use, and 108 (23%) reported current use. The prevalence of current smokeless tobacco use was greatest among women aged ≥65 years (51%) and lowest among those aged 25–34 years (6%) and 18–24 years (11%) (Table 1). Current use also was high among women who had <12 years of education (42%), whose annual income was <$11,000 (31%), who were widowed (42%), who had never smoked cigarettes (30%), and who perceived their health as poor or fair (39%). Current smokeless tobacco use was not associated with alcohol use, use of medical services, church or social group participation, or number of close friends.

Age at initiation of smokeless tobacco use was unknown for 18 (10%) of the 172 ever users; although demographic characteristics of these women were similar to those for whom complete initiation data were available, these respondents were excluded from analyses of age at initiation of use. The median age at initiation of smokeless tobacco use was 10 years; of the ever users for whom data were available, 90% initiated smokeless tobacco use before age 18 years. Median duration of smokeless tobacco use among all current users was 37 years.

Because women in older age groups had a greater chance of beginning smokeless tobacco use at age ≥18 years, women who initiated smokeless tobacco use at age ≥18 years (n=16) were eliminated from the analysis of women who initiated smokeless tobacco use at an early age to ensure comparability between the youngest and older age groups; the women who were excluded did not differ from the others by income or education. The prevalence of early initiation of smokeless tobacco use was highest among those aged 18–24 years (77%) (Table 2). The prevalence of early initiation in other age groups ranged from 18% to 30%. Based on analysis of aggregated data, 35% of women aged ≤44 years began smokeless tobacco use before age 6 years, compared with 22% of women aged ≥45 years.

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Editorial Note: Based on the findings of this survey, the prevalence of smokeless tobacco use among Lumbee women in North Carolina in 1991 was nine times the national mean prevalence for American Indian women (2.5%) and 38 times that for women in the total U.S. population (0.6%) (*1*). Robeson County, where most of the Lumbee reside, is the third largest tobacco-producing county in North Carolina (E. Davis, Robeson County [North Carolina] Agricultural Extension Service, personal communication, 1994), and the high prevalence of smokeless tobacco use among the Lumbee women may reflect, in part, the tobacco-based local economy. High prevalences of smokeless tobacco use also have been documented in other tobacco-producing regions of the United States (*2,3*). However, the prevalence of smokeless

Smokeless Tobacco Use — Continued

TABLE 1. Percentage of Lumbee women reporting current smokeless tobacco use, by demographic, health, and social support categories — North Carolina, 1991

Category	Sample size	Current use		
		No.	(%)	(95% CI*)
Demographics				
Age group (yrs)				
18–24	80	9	(11.2)	(4.3–18.1)†
25–34	106	6	(5.7)	(1.3–10.1)
35–44	104	24	(23.1)	(15.0–31.2)
45–54	66	19	(28.9)	(18.0–39.8)
55–64	56	16	(28.6)	(16.8–40.4)
≥65	67	34	(50.7)	(38.7–62.7)
Education (yrs)				
<12	175	74	(42.3)	(35.0–49.6)†
12	169	22	(13.0)	(7.9–18.1)
>12	135	12	(8.9)	(4.1–13.7)
Annual household income				
≤$10,999	132	41	(31.0)	(23.1–38.9)†
$11,000–$19,999	120	26	(21.7)	(14.3–29.1)
≥$20,000	227	41	(18.1)	(13.1–23.1)
Health				
Self assessment of health				
Poor or fair	148	57	(38.5)	(30.7–46.3)†
Good or excellent	331	51	(15.4)	(11.5–19.3)
Smoking status				
Never smoker	278	83	(29.8)	(24.4–35.2)†
Former smoker§	71	11	(15.5)	(7.1–23.9)
Current smoker¶	130	14	(10.8)	(5.6–16.1)
Alcohol use				
Monthly, weekly, or daily	46	11	(23.9)	(11.6–36.2)†
Never or infrequent	433	97	(22.4)	(14.2–30.6)
Annual physical examination				
Yes	301	61	(20.3)	(15.8–24.8)
No	178	47	(26.4)	(19.6–33.2)
Social support				
Marital status				
Married	275	53	(19.2)	(14.5–23.9)†
Separated/Divorced	60	18	(30.0)	(18.4–41.6)
Widowed	55	23	(41.8)	(28.8–54.8)
Never married	89	14	(15.7)	(8.1–23.3)
Church group participation				
Yes	241	59	(24.5)	(19.1–29.9)
No	238	49	(20.6)	(15.5–25.7)
Social group participation				
Yes	42	6	(14.3)	(3.7–24.8)
No	437	102	(23.3)	(19.3–27.7)
Number of close friends				
0	26	6	(23.1)	(6.9–39.3)
1–5	361	78	(21.6)	(17.4–25.8)
>5	92	24	(26.1)	(17.1–35.1)
Total population	**479**	**108**	**(22.5)**	**(14.6–30.4)**

*Confidence interval.
†$p<0.05$.
§Smoked at least 100 cigarettes during their lifetime and did not smoke at the time of the survey.
¶Smoked at least 100 cigarettes during their lifetime and smoked at the time of the survey.

Smokeless Tobacco Use — Continued

TABLE 2. Frequency of initiation of smokeless tobacco use among Lumbee women at age <6 years among ever users*, by age group — North Carolina, 1991

Age group (yrs)	Total ever users	Initiation of use at age <6 yrs		
		No.	(%)	(95% CI†)
18–24	13	10	(77)	(54.1%–99.9%)§
25–34	17	4	(24)	(5.4%–42.1%)
35–44	36	9	(25)	(10.9%–39.1%)
45–54	20	6	(30)	(9.9%–50.1%)
55–64	18	4	(22)	(3.0%–41.3%)
≥65	34	6	(18)	(5.2%–30.8%)
Total	**138**	**39**	**(28)**	**(20.5%–35.5%)**

*n=172. Age was unknown for 18 (10%). To make older groups comparable to the youngest age group (18–24 years), ever users were limited to those initiating use by age <18 years; this eliminated 16 (10%) ever users from the analysis.
†Confidence interval.
§p<0.005.

tobacco use among these women was more than twice that of women in Pitt County, North Carolina (*3*), the leading tobacco-producing county in the United States, and approximates the prevalence among some male adolescent populations (*4*).

Cultural factors specific to American Indians and the economic impact of tobacco on residents of this region may be associated with this unusually high prevalence of smokeless tobacco use. For example, use of tobacco has been a part of American Indian culture, including medicinal uses such as treatment of gastrointestinal symptoms (*5*), since before the arrival of Europeans (*6,7*). Such uses of tobacco, combined with the availability of tobacco leaf among tobacco-farming families, may be associated with initiation of nicotine addiction in young children.

The findings in this study are subject to at least two limitations. First, respondents were asked to recall their use of smokeless tobacco as children; because early age at initiation among younger women was more recent and, therefore, more likely to be remembered, the high prevalence of early onset of use among younger women may partly reflect this bias. Second, family use of tobacco and family or personal involvement in tobacco production were not analyzed. Employment in tobacco production may play a role in attitudes toward smokeless tobacco use (*3*) because personal involvement in growing tobacco has been associated with a high prevalence of smokeless tobacco use among adolescents (*2*).

The high prevalence of smokeless tobacco use among Lumbee women increases the risk for health hazards, including gingival recession, tooth loss, leukoplakia, and oral cancer. Nicotine use may also increase the risk for cardiovascular disease (*8*) and reproductive risks such as low birthweight, premature delivery, and spontaneous abortion (*9*). Further assessment of parents' attitudes toward childhood smokeless tobacco use, the anthropologic characteristics of smokeless tobacco use among the Lumbee, and the influence of a tobacco-based economy on early initiation and high prevalence of smokeless tobacco use should assist in the development of culturally and economically acceptable interventions.

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Update: Dracunculiasis Eradication — Pakistan, 1994

Dracunculiasis (Guinea worm disease)—a disabling infection that affects persons in 16 African and three Asian countries—has been targeted by the World Health Organization (WHO) for global eradication by the end of 1995. A total of 221,055 cases were reported to WHO for 1993 (*1*). Efforts to eradicate dracunculiasis in each of the 19 affected countries are focused on interrupting all transmission. This report summarizes the impact of Pakistan's Guinea Worm Eradication Program (GWEP).

The eradication program in Pakistan began in 1986 as a collaborative effort involving Pakistan's National Institute of Health, the Global 2000 project of the Carter Center, and CDC. A nationwide village-by-village survey estimated a total of 2400 incident cases for 1987; cases were detected in three areas including North West Frontier, Punjab, and Sindh provinces (*2*). Active surveillance and control measures were implemented in February 1988 in all 408 villages at risk for or characterized by endemic dracunculiasis. Village-based "implementors" were identified and trained in each village to report cases monthly, promote filtration of unsafe drinking water through use of cloth filters, and distribute cloth filters. Other health workers applied temephos (Abate®*) to unsafe sources of drinking water monthly in each affected village to reduce populations of the intermediate copepod hosts. Because in areas with endemic dracunculiasis most underground sources of water are brackish, development of such sources was not a substantial component of the program in Pakistan.

Measures introduced in 1990 to help ensure rapid detection, thorough investigation, and complete control of each case included more intensive surveillance and case-containment measures (e.g., close supervision of the village implementors) (*3*).

*Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Dracunculiasis Eradication — Continued

A cash reward of 1000 rupees (approximately $40 U.S.) for reporting the first case in a village was first offered in 1991. In 1993, other incentives (i.e., 3000 rupees for each patient who complied with case-containment measures and 500 rupees for the person reporting the case) were added and publicized. A registry of reports of potential cases was established, and all claims of cases were promptly investigated by staff of the national eradication program.

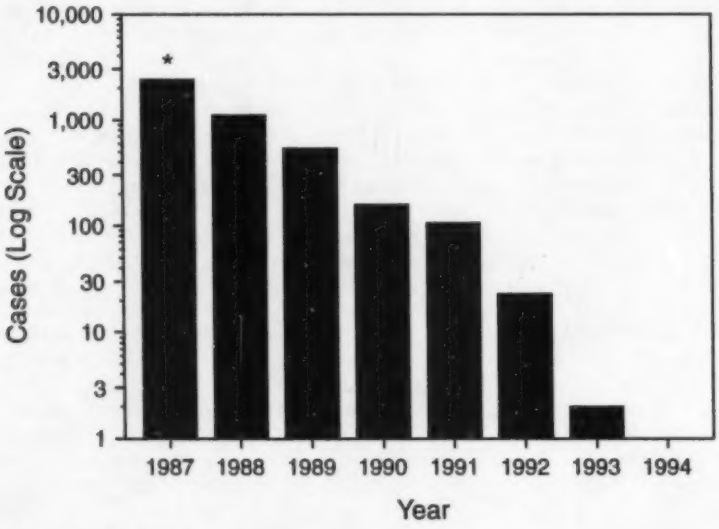
For each calendar year during 1988–1994, the numbers of villages in Pakistan with endemic dracunculiasis were 156, 146, 56, 35, seven, one, and zero, respectively, and the number of cases detected through village-based surveillance were 1110, 534, 160, 106, 23, two, and zero, respectively (Figure 1).

Reported by: M Azam, National Institute of Health, Pakistan. Global 2000, Inc, The Carter Center, Atlanta. World Health Organization Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Div of Parasitic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: Because no cases were reported in 1994, Pakistan is the first of the countries with known endemic dracunculiasis during the 1980s to have eliminated indigenous transmission of the disease for 1 year. In addition, dracunculiasis-eradication methods pioneered by the Pakistan GWEP (e.g., use of village-based health workers and case containment) have been effectively incorporated into all GWEPs in Africa (*1*).

In 1992, the United Nations Childrens' Fund (UNICEF) began providing support to the Pakistan GWEP. In 1993, WHO began assisting Pakistan in maintaining appropriate surveillance activities for the WHO-required 3-year period without indigenous cases

FIGURE 1. Number of reported cases of dracunculiasis — Pakistan, 1987–1994



*Estimate from national case search.

Dracunculiasis Eradication — Continued

for certification of eradication. The WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis at CDC continues to provide technical assistance to Pakistan regarding surveillance and containment of cases.

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